Region One Vegetation Classification, Mapping, $\mathbf{x} = \sum \mathbf{x}$ **Inventory and Analysis Report**

Report 10-11 v3.0

August 2, 2010

Estimates of Old Growth and Snag Density on the Nez Perce National Forest

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Introduction

This document updates the May 4, 2007 Estimates of Old Growth and Snag Density on the Nez Perce National Forest Report number 07 - 05 v1.1. Although the same FIA data is used for this report, the following modifications have been made:

- Hydrologic unit boundaries for 4th and 5th codes have been updated nationally by the NRCS/USGS. Appendix B provides information on these spatial datasets. Estimates and confidence intervals of old growth and snag density are calculated according to these updated spatial datasets.
- Fire activity has been updated through 2008 and harvest activity information has been updated through 2007. Appendix C provides the metadata for these spatial datasets. Estimates and confidence intervals of old growth and snag density are calculated with this updated information. Additionally, in the 2007 report, it was incorrectly reported that snag densities were calculated with harvest and fire removed to 2003.
- The R1 Summary Database estimate and bootstrap algorithm was updated to standardize the rounding algorithm. This has modified some of the lower and upper bound confidence intervals by .01 associated with the hydrologic unit boundaries.

This document provides estimates of the percent of old growth for the Nez Perce National Forest and by 4th and 5th Hydrologic Unit Codes (HUC) using Forest Inventory and Analysis (FIA) data.

All plots that had forested¹ conditions were used. Those plots, in which wildfire or harvest have occurred since the 2000–2002 inventory, were coded to not meet the old growth definition or have snags which results in a conservative estimate of old growth and snags as not all wildfire and harvest activities remove all old growth and snags on the landscape.

As background to this report and for detailed information on FIA sampling methods and data, analysis techniques used, Northern Region old growth criteria, percent of old growth in the Region and by National Forests, see *Estimates of Old Growth for the Northern Region and National Forests* (Bush and others, 2006)

Percent and Distribution of Old Growth on the Nez Perce National Forest

Green et al old growth

Tables 1, 2 and 3 provide a summarization of the estimates of percent of old growth on forested-lands for the Nez Perce National Forest as per the Northern Region's old growth definition (Green and others, 2005).

The Northern Region's definition of old growth, as documented in Green and others, is used to determine if an FIA plot meets old growth minimum criteria. These minimum thresholds are documented in tables 1-3 of the Green document and are the key attributes in identifying old growth; minimum age, diameter, and trees per acre (TPA) over minimum age and diameter thresholds, and minimum basal area. A variety of "associated characteristics" have been identified that can be useful in determining the quality of Old Growth communities for some specific purposes when developing a project-level management approach however, these are not required characteristics as per the Green and others document and therefore are not used for the broad-level analysis.

Table 1: Nez Perce National Forest, Forest-wide estimate of percent of old growth and 90%-confidence intervals.

Forest	Percent Old Growth Estimate	90%- Confidence Interval - Lower Bound	90%- Confidence Interval - Upper Bound	Total Num PSUs	Num Forested PSUs
Nez Perce	12.9	10.4	15.6	339	308

[&]quot;..land at least 10 percent stocked, or currently nonstocked but formerly having such stocking, with timber and/or woodland trees, and where human activity on the site does not preclude natural succession of the forest (i.e., the site will be naturally or artificially regenerated)." Interior West Forest Land Resource Inventory Field Procedures, 1995-1996.

Table 2: Nez Perce National Forest estimates of percent of old growth and 90%-confidence

intervals, by Hydrologic Unit Code (HUC) Level 4.

4 th code HUC	4 th code Subbasin Name	Percent Old Growth Estimate	90%- Confidence Interval - Lower Bound	90%- Confidence Interval - Upper Bound	Total Num PSUs	Num Forested PSUs
17060207	Middle Salmon-Chamberlain	12.9	8.0	18.4	68	60
17060209	Lower Salmon	20.7	9.7	32.8	33	29
17060210	Little Salmon	7.1	0.0	19.4	7	7
17060301	Upper Selway	17.7	9.5	26.6	40	33
17060302	Lower Selway	10.2	6.0	14.9	104	93
17060304	Middle Fork Clearwater	28.6	5.0	53.6	7	7
17060305	South Fork Clearwater	10.4	6.0	15.3	80	79

Table 3: Nez Perce National Forest estimates of percent of old growth and 90%-confidence

intervals, by Hydrologic Unit Code (HUC) level 5.

5 th code HUC	5 th code Watershed Name	Percent Old Growth Estimate	90%- Confidence Interval - Lower Bound	90%- Confidence Interval - Upper Bound	Total Num PSUs	Num Forested PSUs
1706020704	Sabe Creek	25.0	0.0	75.0	3	2
1706020705	Big Squaw Creek-Salmon River	25.0	0.0	50.0	3	1
1706020706	Bargamin Creek	13.9	0.0	30.0	11	9
1706020707	Big Mallard Creek- Salmon River	12.5	2.8	23.6	16	16
1706020709	Crooked Creek	17.9	6.3	30.8	15	14
1706020710	Wind River	20.8	0.0	42.9	6	6
1706020711	Sheep Creek-Salmon River	0.0	0.0	0.0	14	12
1706020902	Partridge Creek-Salmon River	33.3	0.0	66.7	7	6
1706020903	Slate Creek	2.5	0.0	9.4	10	10
1706020904	Race Creek-Salmon River	50.0	0.0	100.0	5	4
1706020905	Skookumchuck Creek- Salmon River	30.0	0.0	60.0	6	5
1706020906	White Bird Creek	6.3	0.0	25.0	5	4
1706021004	Rapid River	10.0	0.0	25.0	5	5
1706021005	Lower Little Salmon River	0.0	0.0	0.0	2	2
1706030105	Running Creek	34.7	12.5	58.3	6	6
1706030106	Bear Creek	16.1	4.9	28.8	20	14
1706030107	Pettibone Creek-Selway River	11.5	0.0	26.8	14	13

5 th code HUC	5 th code Watershed Name	Percent Old Growth Estimate	90%- Confidence Interval - Lower Bound	90%- Confidence Interval - Upper Bound	Total Num PSUs	Num Forested PSUs
1706030201	Moose Creek	8.3	1.3	16.7	34	27
1706030202	Three Links Creek- Selway River	13.9	3.6	26.8	20	18
1706030203	Meadow Creek	6.0	0.0	13.1	25	25
1706030204	Gedney Creek-Selway River	14.1	4.5	25.9	25	23
1706030401	Clear Creek	29.2	0.0	58.3	6	6
1706030402	Middle Fork Clearwater River	25.0	0.0	50.0	1	1
1706030501	Red River	5.4	0.0	13.9	14	14
1706030502	American River	12.5	0.0	28.1	8	8
1706030503	Crooked River	0.0	0.0	0.0	7	7
1706030504	Newsome Creek	25.0	0.0	66.7	4	4
1706030505	Upper South Fork Clearwater River	7.5	0.0	16.7	21	20
1706030506	Johns Creek	11.4	0.0	27.1	11	11
1706030507	Middle South Fork Clearwater River	16.1	3.1	30.8	14	14
1706030509	Lower South Fork Clearwater River	50.0	0.0	75.0	1	1

Nez Perce Forest Plan Old Growth

Tables in Appendix A provide a summarization of the estimates of percent old growth on forested-lands for the Nez Perce National Forest using Forest Plan Old Growth Standards.

Density and Distribution of Snags on the Nez Perce National Forest

Tables 4, 5 and 6 provide, Forest-wide, 4th code HUC and 5th code HUC estimates of the average number of snags per acre on all forested lands on the Nez Perce National Forest for three diameter classes. The *10"+ class* shows the average number of snags per acre that have a DBH of 10 inches and larger. The *15"+ and 20"+ classes*, show the average number of snags per acre 15 inches and larger, and 20 inches and larger.

These estimates have not changed since those reported March 13, 2009, except where hydrologic unit boundaries changed or where confidence intervals changed due rounding methodology.

Table 4: Nez Perce National Forest, Forest-wide estimate of the average number of snags and 90%-confidence intervals.

	Total # # Forested	339 308
	PS.	(1)
·	90%- Confidence Interval - Upper Bound	2.0
SNAGS 20"	90%- Confidence Interval - Lower Bound	1.3
	Snags per Acre Estimate	1.6
SNAGS 15"+	90%- Confidence Interval - Upper Bound	5.1
	90%- Confidence Interval - Lower Bound	3.4
	Snags per Acre Estimate	4.2
SNAGS 10"+	90%- Confidence Interval - Upper Bound	13.3
	90%- Confidence Interval - Lower Bound	6.6
	Snags per Acre Estimate	11.6
	Forest	Nez Perce

Table 5: Nez Perce National Forest of the average number of snags and 90%-confidence intervals, by Hydrologic Unit Code (HUC) level 4.

THE REAL PROPERTY.		SNAGS 10"			SNAGS 15"+	+		SNAGS 20"+	+	d si	3
4th Code HUC	Snags per Acre Estimate	90%- Confidence Interval - Lower Bound	90%- Confidence Interval - Upper Bound	Snags per Acre Estimate	90%- Confidence Interval - Lower Bound	90%- Confidence Interval - Upper Bound	Snags per Acre Estimate	90%- Confidence Interval - Lower Bound	90%- Confidence Interval - Upper Bound	Total # PSUs	# Forested PSUs
17060207	16.9	11.9	22.5	4.4	2.1	7.2	1.6	9.0	3.0	89	09
17060209	9.7	5.2	15.0	5.0	2.1	8.5	2.2	6.0	3.8	33	29
17060210	13.2	2.3	25.8	7.2	0.0	16.2	2.9	0.0	7.6	7	7
17060301	9.7	6.1	13.9	4.0	1.8	6.5	1.9	8.0	3.2	40	33
17060302	9.4	8.9	12.4	4.0	2.7	5.6	1.4	6.0	1.9	104	93
17060304	5.3	1.1	10.0	3.6	1.0	9.9	2.7	9.0	5.3	7	7
17060305	12.8	9.6	16.4	4.0	2.6	5.6	1.4	6:0	2.0	80	62

Table 6: Nez Perce National Forest of the average number of snags and 90%-confidence intervals (CI), by Hydrologic Unit Code (HUC) level 5.

SINGES ID- HUC SINGES ID- SINGES ID- ACCCC SINGES ID- LOWER Upper Depar SINGES ID- ACCCC Toward LOWER Upper Depar ACCCC ACCCC LOWER LOWER MACCCC 1.0 <th></th> <th>ı</th> <th></th>		ı										
Office States Down Lower Bound Acree Bound Bound Acree Bound Bou		S	VAGS 10"+		SNA	GS 15"+		0)	NAGS 20"+			3
3.0 0.0 12.0 4.0 0.0 12.0 4.0 0.0 44.1 13.0 84.2 8.0 1.0 16.0 2.0 1	5th Code HUC	10"+ Snags / Acre Estimate	90% CI - Lower Bound	90% CI - Upper Bound	15"+ Snags / Acre Estimate	90% CI - Lower Bound	90% CI - Upper Bound	20"+ Snags / Acre Estimate	90% CI - Lower Bound	90% CI - Upper Bound	Total # PSUs	# Forested PSUs
44.1 13.0 84.2 8.0 1.0 16.0 2.0 1.0 20.6 10.3 31.9 52.0 0.0 3.4 0.0 1.0 0.0 20.6 10.3 31.9 52.0 1.3 0.0 <td< td=""><td>1706021004</td><td>3.0</td><td>0.0</td><td>12.0</td><td>3.0</td><td>0.0</td><td>12.0</td><td>4.0</td><td>0.0</td><td>10.5</td><td>5</td><td>5</td></td<>	1706021004	3.0	0.0	12.0	3.0	0.0	12.0	4.0	0.0	10.5	5	5
206 10.3 31.9 5.2 0.1 12.0 1.7 0.0 17.6 8.6 27.6 1.3 0.0 3.4 0.1 0.0 3.1 12.0 8.0 27.6 1.3 0.0 3.4 0.0 0.0 3.1 1.5 0.0 4.0 1.5 0.0 4.0 0.0 2.8 0.0 4.0 4.0 4.0 0.0 0.0 2.8 0.0 4.0 4.0 4.0 0.0 0.0 6.9 1.8 0.0 4.0 4.0 1.6 0.0 6.0 1.0 4.0 1.6 0.0 0.0 0.0 0.0 1.0.1 1.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0.2 4.0 1.4.2 3.4.1 1.0 1.2 4.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1706020705	44.1	13.0	84.2	8.0	1.0	16.0	2.0	1.0	3.0	3	1
17.6 8.6 27.6 1.3 0.0 3.4 0.1 0.0 9,1 3.7 16.0 3.1 0.1 8.7 2.0 0.0 1.5 0.0 4.0 1.2 0.0 4.0 4.0 0.0 2.8 0.0 4.0 1.2 0.0 4.0 4.0 0.0 0.0 6.9 1.8 1.3 0.3 6.9 4.0 1.5 0.0 6.9 1.8 1.3 0.0 4.0 1.5 0.0 0.0 6.9 1.8 1.2 0.0 4.0 1.5 0.0 0.0 1.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0.2 4.1 1.4 1.2 3.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	1706020706	20.6	10.3	31.9	5.2	0.1	12.0	1.7	0.0	4.3	11	6
9.1 3.7 16.0 3.1 0.1 8.7 2.0 0.0 31.1 12.0 54.0 12.0 2.6 25.1 4.0 0.0 1.5 0.0 4.0 1.5 0.0 4.0 1.5 0.0 6.9 0.0 7.0 1.6 0.0 4.0 1.6 0.0 6.9 1.8 1.2 3.3 0.3 6.9 0.0 0.0 27.1 9.0 45.8 16.5 0.7 3.6 0.0 0.0 12.6 0.0 31.6 6.0 0.0 1.0 0.0 0.0 4.5 0.0 12.0 0.0 0.0 0.0 0.0 0.0 0.0 9.0 4.0 1.2 0.0 0.0 0.0 0.0 0.0 0.0 9.0 4.0 1.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1706020707	17.6	8.6	27.6	1.3	0.0	3.4	0.1	0.0	0.4	16	16
31.1 12.0 54.0 12.0 2.6 25.1 4.0 0.8 1.5 0.0 4.0 1.5 0.0 4.0 1.5 0.0 2.8 0.0 4.0 1.5 0.0 4.0 1.5 0.0 6.9 1.8 13.2 3.3 0.0 6.9 0.0 0.0 0.0 27.1 9.0 45.8 16.5 0.7 35.4 7.5 0.0 4.5 0.0 31.6 6.6 0.0 0.0 0.0 0.0 0.0 4.5 0.0 12.0 0.0 <td>1706020709</td> <td>9.1</td> <td>3.7</td> <td>16.0</td> <td>3.1</td> <td>0.1</td> <td>8.7</td> <td>2.0</td> <td>0.0</td> <td>0.9</td> <td>15</td> <td>14</td>	1706020709	9.1	3.7	16.0	3.1	0.1	8.7	2.0	0.0	0.9	15	14
1.5 0.0 4.0 1.5 0.0 4.0 1.5 0.0 4.0 1.5 0.0 4.0 1.5 0.0 4.0 1.5 0.0 4.0 1.6 0.0 4.0 1.6 0.0 4.0 1.6 0.0 1.6 0.0 <td>1706020710</td> <td>31.1</td> <td>12.0</td> <td>54.0</td> <td>12.0</td> <td>2.6</td> <td>25.1</td> <td>4.0</td> <td>8.0</td> <td>7.8</td> <td>9</td> <td>9</td>	1706020710	31.1	12.0	54.0	12.0	2.6	25.1	4.0	8.0	7.8	9	9
2.8 0.0 7.0 1.6 0.0 4.0 1.6 0.0 4.0 1.6 0.0 4.0 1.6 0.0 4.0 1.0 0.0 <td>1706020711</td> <td>1.5</td> <td>0.0</td> <td>4.0</td> <td>1.5</td> <td>0.0</td> <td>4.0</td> <td>1.5</td> <td>0.0</td> <td>4.0</td> <td>14</td> <td>12</td>	1706020711	1.5	0.0	4.0	1.5	0.0	4.0	1.5	0.0	4.0	14	12
6.9 1.8 13.2 3.3 0.3 6.9 0.0 0.0 27.1 9.0 45.8 16.5 0.7 35.4 7.5 0.0 12.6 0.0 31.6 6.6 0.0 15.0 4.2 0.0 18.4 0.0 31.6 6.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 4.0 14.2 3.0 0.0 0.0 0.0 0.0 4.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0 4.1 1.2 3.1 0.4 6.9 1.2 0.0 0.0 0.0 5.2 4.8 2.0 8.0 1.3 0.4 0.3 0.1 <	1706020902	2.8	0.0	7.0	1.6	0.0	4.0	1.6	0.0	4.0	7	9
27.1 9.0 45.8 16.5 0.7 35.4 7.5 0.7 12.6 0.0 31.6 6.6 0.0 15.0 4.2 0.0 4.5 0.0 31.6 6.6 0.0 0.0 0.0 0.0 4.5 0.0 12.0 0.0 0.0 0.0 0.0 0.0 18.4 4.2 34.1 10.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 4.0 14.2 34.1 10.0 0.0 0.0 0.0 10.2 4.0 14.2 3.0 0.3 6.5 2.0 0.0 10.2 4.1 1.2 3.1 0.4 6.9 1.2 0.0 10.5 5.2 17.2 4.8 0.0 0.0 0.0 0.0 4.1 10.9 5.2 17.4 6.2 1.0 0.3 </td <td>1706020903</td> <td>6.9</td> <td>1.8</td> <td>13.2</td> <td>3.3</td> <td>0.3</td> <td>6.9</td> <td>0.3</td> <td>0.0</td> <td>0.7</td> <td>10</td> <td>10</td>	1706020903	6.9	1.8	13.2	3.3	0.3	6.9	0.3	0.0	0.7	10	10
12.6 0.0 31.6 6.6 0.0 15.0 4.2 0.0 4.5 0.0 12.0 0.0 </td <td>1706020904</td> <td>27.1</td> <td>9.0</td> <td>45.8</td> <td>16.5</td> <td>0.7</td> <td>35.4</td> <td>7.5</td> <td>0.7</td> <td>14.7</td> <td>5</td> <td>4</td>	1706020904	27.1	9.0	45.8	16.5	0.7	35.4	7.5	0.7	14.7	5	4
4.5 0.0 12.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 4.0 0.0 <td>1706020905</td> <td>12.6</td> <td>0.0</td> <td>31.6</td> <td>9.9</td> <td>0.0</td> <td>15.0</td> <td>4.2</td> <td>0.0</td> <td>9.1</td> <td>9</td> <td>5</td>	1706020905	12.6	0.0	31.6	9.9	0.0	15.0	4.2	0.0	9.1	9	5
18.4 4.2 34.1 10.0 0.0 22.0 4.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 9.0 4.0 14.2 3.0 0.0 0.0 0.0 0.0 9.0 4.0 14.2 3.0 0.0 0.0 0.0 0.0 9.0 4.0 14.2 3.0 0.0 0.0 0.0 0.0 9.5 4.2 17.5 3.1 0.4 6.0 1.5 0.1 4.1 1.6.2 17.2 4.8 2.0 8.0 1.3 0.4 4.1 1.7 7.0 4.8 2.0 8.0 1.3 0.4 4.1 1.6.2 17.4 6.2 3.2 1.1 0.3 0.3 4.7 0.6 9.6 17.4 6.2 3.0 0.0 0.0 0.0 4.7 0.6 9.6 18.0 0.1 0.2	1706020906	4.5	0.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	5	4
0.0 0.0 <td>1706021004</td> <td>18.4</td> <td>4.2</td> <td>34.1</td> <td>10.0</td> <td>0.0</td> <td>22.0</td> <td>4.0</td> <td>0.0</td> <td>10.5</td> <td>5</td> <td>5</td>	1706021004	18.4	4.2	34.1	10.0	0.0	22.0	4.0	0.0	10.5	5	5
9.0 4.0 14.2 3.0 0.3 6.5 2.0 0.3 10.2 4.2 17.5 3.1 0.4 6.9 1.5 0.1 9.5 2.4 19.0 6.5 1.0 1.3 2.5 0.2 11.5 6.5 17.2 4.8 2.0 8.0 1.3 0.4 4.1 1.7 7.0 4.8 2.0 8.0 1.3 0.4 9.4 4.1 16.2 2.6 0.6 8.0 1.3 0.4 10.9 5.5 17.4 6.2 3.2 10.1 0.3 0.0 4.7 7.0 5.2 17.4 0.3 0.0 0.0 0.0 0.0 4.7 0.0 4.8 3.0 0.0 0.0 0.0 0.0 0.0 4.7 0.0 4.0 3.7 1.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1706021005	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	2
10.2 4.2 17.5 3.1 0.4 6.9 1.5 0.1 6.9 1.5 0.1 6.1 0.1 6.2 1.0 1.2 2.5 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.0 0.3 0.0 0.3 0.0 </td <td>1706030105</td> <td>0.6</td> <td>4.0</td> <td>14.2</td> <td>3.0</td> <td>0.3</td> <td>6.5</td> <td>2.0</td> <td>0.3</td> <td>4.6</td> <td>9</td> <td>9</td>	1706030105	0.6	4.0	14.2	3.0	0.3	6.5	2.0	0.3	4.6	9	9
9.5 2.4 19.0 6.5 1.0 13.2 2.5 0.2 11.5 6.5 17.2 4.8 2.0 8.0 1.3 0.4 4.1 1.7 7.0 1.8 0.4 3.7 1.1 0.3 9.4 4.1 16.2 2.6 0.6 5.2 1.0 0.3 10.9 4.7 16.2 2.6 0.6 5.2 1.0 0.3 4.7 0.6 9.6 3.7 0.6 7.0 2.7 0.3 4.7 0.6 9.6 3.7 0.0 0.0 0.0 15.9 6.1 28.7 3.0 0.1 7.4 0.9 0.0 15.9 6.1 28.7 3.0 0.0 0.0 0.0 0.0 15.3 3.0 10.7 7.4 0.9 0.0 0.0 15.3 3.0 3.1 4.1 2.0 0.0 0.0 15.2	1706030106	10.2	4.2	17.5	3.1	0.4	6.9	1.5	0.1	3.4	20	14
11.5 6.5 17.2 4.8 2.0 8.0 1.3 0.4 4.1 1.7 7.0 1.8 0.4 3.7 1.1 0.3 9.4 4.1 16.2 2.6 0.6 5.2 1.0 0.3 10.9 5.5 17.4 6.2 3.2 10.1 2.2 1.2 4.7 0.6 3.7 10.1 2.2 1.2 1.2 9.0 0.0 18.0 3.7 0.0 2.7 0.3 0.0 15.9 6.1 28.7 3.0 0.0 6.0 3.0 0.0 0.0 15.9 6.1 28.7 3.0 0.1 7.4 0.9 0.0 0.0 15.2 22.5 0.2 0.8 0.1 1.5 0.8 0.1 15.5 3.0 32.1 4.8 0.0 0.6 0.2 0.0 15.5 3.1 14.9 3.6 0.7 0.2	1706030107	9.5	2.4	19.0	6.5	1.0	13.2	2.5	0.2	0.9	14	13
4.1 1.7 7.0 1.8 0.4 3.7 1.1 0.3 9.4 4.1 16.2 2.6 0.6 5.2 1.0 0.3 10.9 5.5 17.4 6.2 3.2 10.1 2.2 1.2 4.7 0.6 9.6 3.7 0.6 7.0 2.7 0.3 9.0 0.0 18.0 3.7 0.0 6.0 2.7 0.3 15.9 6.1 28.7 3.0 0.0 6.0 3.0 0.0 11.3 2.2 22.5 0.8 0.1 1.5 0.8 0.1 5.2 0.0 10.7 0.2 0.0 0.6 0.2 0.0 15.3 3.0 32.1 4.8 0.0 0.6 0.2 0.0 15.5 9.0 23.0 4.1 2.0 6.6 0.2 0.0 15.5 9.0 23.0 4.1 2.0 0.2 0.0	1706030201	11.5	6.5	17.2	4.8	2.0	8.0	1.3	0.4	2.3	34	27
9.4 4.1 16.2 2.6 0.6 5.2 1.0 0.3 10.9 5.5 17.4 6.2 3.2 10.1 2.2 1.2 1.2 4.7 0.6 9.6 9.6 9.6 3.7 0.6 7.0 2.7 0.3 9.0 0.0 18.0 3.0 0.0 6.0 3.0 0.0	1706030202	4.1	1.7	7.0	1.8	0.4	3.7	1.1	0.3	2.3	20	18
10.9 5.5 17.4 6.2 3.2 10.1 2.2 1.2 4.7 0.6 9.6 3.7 0.6 7.0 2.7 0.3 9.0 0.0 18.0 3.0 0.0 6.0 3.0 0.0 15.9 6.1 28.7 3.0 0.1 7.4 0.9 0.0 11.3 2.2 22.5 0.8 0.1 1.5 0.8 0.1 5.2 0.0 10.7 0.2 0.0 0.6 0.0 0.0 15.3 3.0 32.1 4.8 0.0 10.8 0.0 0.0 15.5 9.0 23.0 4.1 2.0 6.6 1.2 0.0 8.5 3.1 14.9 3.6 14.9 3.1 1.1 13.9 6.7 22.9 8.7 0.0 0.0 0.0 13.0 0.0 2.0 1.0 0.0 0.0 0.0 13.0	1706030203	9.4	4.1	16.2	2.6	9.0	5.2	1.0	0.3	2.0	25	25
4.7 0.6 9.6 3.7 0.6 7.0 2.7 0.3 9.0 0.0 18.0 3.0 0.0 6.0 3.0 0.0 15.9 6.1 28.7 3.0 0.1 7.4 0.9 0.0 11.3 2.2 22.5 0.8 0.1 1.5 0.0 0.0 15.2 0.0 10.7 0.2 0.0 0.6 0.0 0.0 15.3 3.0 23.0 4.1 2.0 6.6 1.2 0.0 8.5 3.1 14.9 3.6 0.7 7.2 0.8 0.1 13.9 6.7 22.9 8.7 14.9 3.1 11.1 11.1 13.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	1706030204	10.9	5.5	17.4	6.2	3.2	10.1	2.2	1.2	3.4	25	23
9.0 0.0 18.0 0.0 6.0 <td>1706030401</td> <td>4.7</td> <td>9.0</td> <td>9.6</td> <td>3.7</td> <td>9.0</td> <td>7.0</td> <td>2.7</td> <td>0.3</td> <td>5.7</td> <td>9</td> <td>9</td>	1706030401	4.7	9.0	9.6	3.7	9.0	7.0	2.7	0.3	5.7	9	9
15.9 6.1 28.7 3.0 0.1 7.4 0.9 0.0 2 11.3 2.2 22.5 0.8 0.1 1.5 0.8 0.1 1 5.2 0.0 10.7 0.2 0.0 0.6 0.2 0.0 0 15.3 3.0 23.0 4.1 2.0 6.6 1.2 0.5 1 8.5 3.1 14.9 3.6 0.7 7.2 0.8 0.1 2 13.9 6.7 7.2 0.8 0.1 5 1 5 13.9 6.7 3.6 14.9 3.1 1.1 5 13.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	1706030402	0.6	0.0	18.0	3.0	0.0	6.0	3.0	0.0	6.0	1	_
11.3 2.2 22.5 0.8 0.1 1.5 0.8 0.1 1.5 0.8 0.1 1 5.2 0.0 10.7 0.2 0.0 0.6 0.2 0.0 0 15.3 3.0 32.1 4.8 0.0 10.8 3.3 0.0 6 15.5 9.0 23.0 4.1 2.0 6.6 1.2 0.5 1 8.5 3.1 14.9 3.6 0.7 7.2 0.8 0.1 2 13.9 6.7 22.9 8.7 3.6 14.9 3.1 1.1 5 1.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0 0.0	1706030501	15.9	6.1	28.7	3.0	0.1	7.4	6.0	0.0	2.5	14	14
5.2 0.0 10.7 0.2 0.0 0.6 0.2 0.0 0.0 15.3 3.0 32.1 4.8 0.0 10.8 3.3 0.0 15.5 9.0 23.0 4.1 2.0 6.6 1.2 0.5 8.5 3.1 14.9 3.6 0.7 7.2 0.8 0.1 13.9 6.7 22.9 8.7 3.6 14.9 3.1 1.1 1.0 0.0 2.0 1.0 0.0 2.0 1.0 0.0	1706030502	11.3	2.2	22.5	8.0	0.1		0.8	0.1	1.5	8	8
15.3 3.0 32.1 4.8 0.0 10.8 3.3 0.0 15.5 9.0 23.0 4.1 2.0 6.6 1.2 0.5 8.5 3.1 14.9 3.6 0.7 7.2 0.8 0.1 13.9 6.7 22.9 8.7 3.6 14.9 3.1 1.1 1.0 0.0 2.0 1.0 0.0 2.0 1.0 0.0	1706030503	5.2	0.0	10.7	0.2	0.0	9.0	0.2	0.0	9.0	7	7
15.5 9.0 23.0 4.1 2.0 6.6 1.2 0.5 8.5 3.1 14.9 3.6 0.7 7.2 0.8 0.1 13.9 6.7 22.9 8.7 3.6 14.9 3.1 1.1 1.0 0.0 2.0 1.0 0.0 2.0 1.0 0.0	1706030504	15.3	3.0	32.1	4.8	0.0	10.8	3.3	0.0	6.7	4	4
8.5 3.1 14.9 3.6 0.7 7.2 0.8 0.1 13.9 6.7 22.9 8.7 3.6 14.9 3.1 1.1 1.0 0.0 2.0 1.0 0.0 2.0 1.0 0.0	1706030505	15.5	9.0	23.0	4.1	2.0	9.9	1.2	0.5	1.9	21	20
13.9 6.7 22.9 8.7 3.6 14.9 3.1 1.1 1.0 0.0 2.0 1.0 0.0 2.0 1.0 0.0	1706030506	8.5	3.1	14.9	3.6	0.7	7.2	0.8	0.1	2.0	11	1
1.0 0.0 2.0 1.0 0.0 2.0 1.0 0.0	1706030507	13.9	6.7	22.9	8.7	3.6	14.9	3.1	<u>-</u>	5.8	14	14
	1706030509	1.0	0.0	2.0	1.0	0.0	2.0	1.0	0.0	2.0		_

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Green, P.; J. Joy; D. Sirucek; W. Hann; A. Zack; and B. Naumann. 1992 (errata corrected 2/05). Old Growth Forest Types of the Northern Region. United States Department of Agriculture, Forest Service, Northern Region. Missoula, MT. 60 p

Appendix A – Nez Perce National Forest Plan Old Growth Estimates

Tables A-1, A-2, and A-3 provide a summarization of the estimates of percent old growth on forested-lands for the Nez Perce National Forest using current forest plan old growth standards. Estimates were made for two forest plan scenarios: where there are 15 or more trees per acre that are 21 inches in diameter at breast height (DBH) or larger, and one which includes the additional criteria of a two-story (2), three-story (3) or continuous (C) vertical structure, see *Region One Vegetation Council Classification Algorithms* (Barber and others, 2009)

Table A-1: Estimates of percent of forested lands with 15 or more trees per acre 21 inches DBH or larger and estimates of percent of forested lands with 15 or more trees per acre 21 inches DBH or larger and vertical structure is 2, 3, or continuous with 90%-confidence intervals.

	1:	5 TPA GE 21"	DBH		GE 21" DBH a Structure 2,3 o		Sal haz	12-2
Forest	Percent Estimate	90%- Confidence Interval - Lower Bound	90%- Confidence Interval - Upper Bound	Percent Estimate	90%- Confidence Interval - Lower Bound	90%- Confidence Interval - Upper Bound	Total # PSUs	# Forested PSUs
Nez Perce	17.2	14.4	20.2	13.6	11.1	16.2	339	308

Table A-2: Estimates of 15 or more trees per acre 21 inches DBH or larger and estimates of 15 or more trees per acre 21 inches DBH or larger and vertical structure is 2, 3, or continuous with 90%-confidence intervals, by Hydrologic Unit Code (HUC) level 4.

15	5 TPA GE 21"	DBH					
Percent Estimate	90%- Confidence Interval - Lower Bound	90%- Confidence Interval - Upper Bound	Percent Estimate	90%- Confidence Interval - Lower Bound	90%- Confidence Interval - Upper Bound	Total # PSUs	# Forested PSUs
7.4	3.3	11.9	5.1	2.2	8.5	68	60
27.3	16.2	39.0	20.5	10.8	30.9	33	29
3.6	0.0	12.5	3.6	0.0	12.5	7	7
11.3	5.3	18.1	7.5	3.0	12.8	40	33
17.7	12.6	23.1	14.8	10.2	19.8	104	93
53.6	25.0	83.3	50.0	20.8	77.8	7	7
21.9	15.4	28.7	17.2	11.7	23.0	80	79
	7.4 27.3 3.6 11.3 17.7 53.6	Percent Estimate	Percent Estimate Confidence Interval - Lower Bound Confidence Interval - Upper Bound 7.4 3.3 11.9 27.3 16.2 39.0 3.6 0.0 12.5 11.3 5.3 18.1 17.7 12.6 23.1 53.6 25.0 83.3	Percent Estimate	Percent Estimate	Percent Estimate 90%-Confidence Interval - Lower Bound 90%-Confidence Interval - Lower Bound Percent Estimate Percent Estimate 90%-Confidence Interval - Lower Bound 11.9 5.1 2.2 8.5 27.3 16.2 39.0 20.5 10.8 30.9 3.6 0.0 12.5 3.6 0.0 12.5 11.3 5.3 18.1 7.5 3.0 12.8 17.7 12.6 23.1 14.8 10.2 19.8 53.6 25.0 83.3 50.0 20.8 77.8	Percent Estimate

Table A-3: Estimates of 15 or more trees per acre 21 inches DBH or larger and estimates of 15 or more trees per acre 21 inches DBH or larger and vertical structure is 2, 3, or continuous with 90%-confidence intervals (CI), by Hydrologic Unit Code (HUC) level 5.

continuous		TPA GE 21" I	7	15 TPA G	E 21" DBH arructure 2, 3 c	nd Vertical		torici ;
5th Code HUC	Percent Estimate	90% CI - Lower Bound	90% CI - Upper Bound	Percent Estimate	90% CI - Lower Bound	90% CI - Upper Bound	Total # PSUs	Forested PSUs
1706020704	33.3	0.0	100.0	16.7	0.0	50.0	3	2
1706020705	0.0	0.0	0.0	0.0	0.0	0.0	3	1
1706020706	6.8	0.0	15.9	4.5	0.0	12.5	11	9
1706020707	3.1	0.0	8.3	3.1	0.0	8.3	16	16
1706020709	6.7	0.0	15.3	6.7	0.0	15.3	15	14
1706020710	12.5	0.0	31.3	8.3	0.0	25.0	6	6
1706020711	7.1	0.0	20.0	3.6	0.0	11.4	14	12
1706020902	32.1	0.0	65.0	21.4	0.0	50.0	7	6
1706020903	22.5	5.0	41.7	12.5	0.0	28.1	10	10
1706020904	50.0	6.3	87.5	40.0	0.0	75.0	5	4
1706020905	33.3	0.0	62.5	33.3	0.0	62.5	6	5
1706020906	0.0	0.0	0.0	0.0	0.0	0.0	5	4
1706021004	5.0	0.0	18.8	5.0	0.0	18.8	5	5
1706021005	0.0	0.0	0.0	0.0	0.0	0.0	2	2
1706030105	29.2	8.3	50.0	25.0	5.0	46.4	6	6
1706030106	6.3	0.9	13.2	5.0	0.0	11.5	20	14
1706030107	10.7	0.0	25.0	3.6	0.0	10.0	14	13
1706030201	6.1	0.9	12.5	6.1	0.9	12.5	34	27
1706030202	17.5	6.0	30.6	11.3	2.5	21.7	20	18
1706030203	16.0	6.5	26.8	13.0	4.3	23.1	25	25
1706030204	35.0	22.3	48.2	31.0	18.8	44.0	25	23
1706030401	50.0	15.6	83.3	45.8	12.5	75.0	6	6
1706030402	75.0	0.0	100.0	75.0	0.0	100.0	1	1
1706030501	12.5	0.0	26.9	8.9	0.0	19.4	14	14
1706030502	18.8	2.8	37.5	12.5	0.0	25.0	8	8
1706030503	0.0	0.0	0.0	0.0	0.0	0.0	7	7
1706030504	50.0	0.0	100.0	43.8	0.0	96.4	4	4
1706030505	23.8	10.4	38.4	15.5	5.6	26.7	21	20
1706030506	20.5	3.8	39.3	15.9	2.5	31.6	11	11
1706030507	30.4	13.6	48.0	28.6	12.5	45.0	14	14
1706030509	75.0	0.0	100.0	75.0	0.0	100.0	1	1

Appendix B

Hydrologic unit boundaries for 4th and 5th codes have been updated nationally by the NRCS/USGS. This data was published by US Forest Service data center in February 2009.

The following is a synopsis of the metadata for the 4th code hydrologic unit boundaries: *Originator:* Original data from the USDA NRCS Watershed Boundary Dataset (WBD). Data processed and imported by USDA Forest Service, NRIS.

Publication_Date: February 2009
Title: Subasin HUC8 Level4

Online Linkage:

\LTHP9250W7D\J\fsfiles\unit\frm\inventory\FSVEG\Summary Tables\Spatial Data\Librar y\R1\HUC 4 and HUC 5 May2010\HUC4 HUC5 May2010.gdb

Description: Subdivisions of basins. Subbasins are the forth level (8-digit) of the hydrologic unit hierarchy. This file contains Hydrologic Unit boundaries and codes for the United States, Puerto Rico, and the U.S. Virgin Islands. The data are a seamless national representation of Hydrologic Unit boundaries at HU_8 levels. Geometry of all delineations is from the NRCS Watershed Boundary Dataset (WBD) state coordination efforts. The feature class field structure is from USGS National Hydrography Dataset Hydrologic Units (HU) dataset. WBD attribute records for each hydrologic unit were populated into the HU structure. Not all WBD attributes could be moved into the HU structure because there was not a place in the HU structure for some WBD attributes. USFS Natural Resources Information System (NRIS) derived the HU_8 data based on the WBD certified HU_12 data. The data were imported into USGS HU data structure.

The following is a synopsis of the metadata for the 5th code hydrologic unit boundaries: *Originator:* Original data from the USDA NRCS Watershed Boundary Dataset (WBD). Data processed and imported by USDA Forest Service, NRIS.

Publication_Date: February 2009 Title: Subasin_HUC10_Level5

Online Linkage:

\LTHP9250W7D\J\fsfiles\unit\frm\inventory\FSVEG\Summary Tables\Spatial Data\Librar y\R1\HUC 4 and HUC 5 May2010\HUC4 HUC5 May2010.gdb

Description: Subdivisions within a subbasin. Watersheds are the fifth level (8-digit) of the hydrologic unit hierarchy. This file contains Hydrologic Unit boundaries and codes for the United States, Puerto Rico, and the U.S. Virgin Islands. The data are a seamless national representation of Hydrologic Unit boundaries at HU_10 levels. Geometry of all delineations is from the NRCS Watershed Boundary Dataset (WBD) state coordination efforts. The feature class field structure is from USGS National Hydrography Dataset Hydrologic Units (HU) dataset. WBD attribute records for each hydrologic unit were populated into the HU structure. Not all WBD attributes could be moved into the HU structure because there was not a place in the HU structure for some WBD attributes. USFS Natural Resources Information System (NRIS) derived the HU_10 data based on the WBD certified HU_12 data. The data were imported into USGS HU data structure.

The geospatial interface feature classes (Hydrologic Unit (HU) Boundary, Level 4, HUC_8, Subbasin and Hydrologic Unit (HU) Boundary, HUC_10, Level 5) were

intersected with the FIA plot locations. The FIA plots attributed with HU designation, were enabled within the FIA Summary Database as variables: SD1 Subasin HUC4 and SD1 Watershed HUC5.

Appendix C

Fire and harvest data, though 2008, is maintained by the Nez Perce National Forest. There were no additional FIA plots affected by harvest than those identified in the coverage used in the previous report.

The following is a synopsis of the metadata for the fire coverage:

Originator: Nez Perce National Forest

Publication_Date: 1/2009 Title: nez_fire_summary

Online_Linkage: http://www.fs.fed.us/r1/nezperce/gislib/zips/firehis_pl.zip

Description: The nez_fire_summary feature class was created by the Nez Perce National Forest to describe the spatial location and year burned for wildfires within the administrative boundary of the Nez Perce National Forest. Fire polygons can overlap. Source attributes for the wildfires were drawn from the fire record books of the Nez Perce National Forest from 1932 - 2003 and the Kansas City FAST database for 2003 through 2008. Many wildfires in the distant past have little information known about them so many of the older fires are simply named for the year in which they occurred.

Purpose: This information is intended for cartographic use and spatial analysis.

Calendar Date: 2009

The following is a synopsis of the metadata for the harvest coverage:

Originator: Nez Perce National Forest Publication_Date: Unpublished Material

Title: nez_harv_summary

Online Linkage:

\\LTHP9250W7D\F\c\jweston\fia\intersect projects\Nezperce\nez harv summary.shp

Description: The nez_harv_summary feature class delineates polygons in which harvest activity has taken place within the administrative boundary of the Nez Perce National Forest. Attributes describe the type of harvest and the harvest year

Purpose: This feature class was created to document harvest occurring on the Nez Perce National forest and is intended to be used in concert with the Summary Database to flag harvested stands in the area of Forest Inventory plots.

Calendar_Date: 19 October 2007